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EXAMINER

KROFCHECK, MICHAEL C

ART UNIT PAPER NUMBER

2186

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/726,112	<b>Applicant(s)</b> ARUNAGIRINATHAN ET AL.	
	<b>Examiner</b> Michael Krofcheck	<b>Art Unit</b> 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☒ Claim(s) 31-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to application 10/726,112 filed on 12/02/2003.
2. Claims 1-32 have been submitted for examination.
3. Claims 1-32 have been examined.

#### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 6, 19, 28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6. Claims 6, 19, 28 are not limited to tangible embodiments. In view of the applicant's disclosure, specification page 4, line 12-17, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., volatile and non-volatile memory) and intangible embodiments (e.g., carrier waves and signals). As such, the claims are not limited to statutory subject matter and are therefore non-statutory.

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 4, 6, 7, 11, 13, 19, 20, 21, 28, 29 rejected under 35 U.S.C. 102(b) as being anticipated by Copeland et al., U.S. Patent Application Publication 2002/0116582 (hereinafter Copeland).

9. With respect to claim 1, Copeland teaches of a method of using a secondary key to facilitate invalidation of cached data, comprising: at a first data source (fig. 1; items 14; paragraph 0026): associating a URL (Uniform Resource Locator) with a first data object (fig. 3; paragraph 0054; where each entry (data object) is associated with a template which is a URL);

forwarding the first data object to a cache (fig. 3; paragraph 0054; metadata is used by the system to manage the caching of the associated entry (data object). As the entry is cached by the system, the entry must be sent to the cache), along with:

a primary key comprising the URL (fig. 3; items 102, 104; paragraph 0054; the metadata contains a template which is a URL and a cache ID); and

a secondary key configured to identify the first data source (fig. 3; item 104, 108; paragraph 0054; the data ID (secondary key) links to the data upon which the entry depends, hence back to the first data source);

caching the first data object at the cache (fig. 3; paragraph 0054; metadata is used by the system to manage the caching of the associated entry (data object). Therefore the entry is cached by the system);

issuing an invalidation message from the first data source to the cache wherein said invalidation message comprises the identifier (fig. 3; paragraph 0054, 0061-0067;

the JSP calls the invalidateByID(id, wait) command which invalidates the entries with a cache ID or dependency on a data ID equal to id (identifier)); and at the cache,

using the identifier to identify one or more data objects for invalidation, including the first data object (paragraph 0054, 0060-0067; the command invalidates the entries with a cache ID or dependency on a data ID equal to id. If a command is cached and the underlying data is invalidated, then the command must be invalidated as well).

10. With respect to claim 2, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland also teaches of the primary key uniquely identifies the first data object (fig. 3; paragraph 0054; the cache ID (part of the primary ID) identifies the entry which must be unique within the scope of a set of JVMs); and

the secondary key identifies a set of data objects having the same data source (fig. 3; item 108; paragraph 0054, 0061; the data IDs (secondary key) are links to the data upon which the entry depends (the data source). the data IDs provide a means to simplify the invalidation of all the dependent entries when the underlying data is modified. Hence a specific data ID corresponds to a group on entries).

11. With respect to claim 4, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland also teaches of at the cache: maintaining a mapping of the URL of the first data object to one or more secondary keys of the first data object, including said secondary key (paragraph 0072; the cache entry vs. data ID dependency list matches JSP or command (data object) with its data IDs (secondary keys) and the template dependency list matches the JSP or command with its URL. using the two lists together enables one to map a URL to a list of data IDs).

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12. With respect to claim 6, Copeland teaches of a computer readable medium storing instructions that carry out the methods of claim 1 as recited above (paragraph 0081).

13. With respect to claim 7, Copeland teaches of a computer-implemented method of facilitating invalidation of cached data using a secondary key, the method comprising: at an application configured to produce cacheable data objects, associating with a first data object: a first primary key configured to uniquely identify the first data object within a collection of computer systems (fig. 3; items 102, 104; paragraph 0054; the entry is associated with metadata that contains a template and a cache ID (primary key). The cache ID identifies the entry which must be unique within the scope of a set of JVMs (collection of computer systems)); and

a first secondary key configured to identify multiple data objects having a common attribute (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends (common attribute));

when the first data object is provided to a cache to be cached, providing said first secondary key (paragraph 0054, 0059; the metadata accompanies each cacheable entry. Therefore the data ID (secondary key) is given to the cache when the cache entry is, since it is in the metadata); and

issuing an invalidation message from the application to the cache to invalidate the multiple data objects, wherein the invalidation message includes said first secondary key (fig. 3; paragraph 0054, 0061-0067; the JSP calls the invalidateByID(id, wait) command which invalidates the entries with a cache ID or dependency on a data ID

equal to id (secondary key value). If a command is cached and the underlying data is invalidated, then the command must be invalidated as well).

14. With respect to claim 11, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland also teaches of the common attribute is a data source; and said first secondary key comprises an identifier of a source of the first data object (fig. 3; paragraph 0054; where the data ID (identifier in secondary key) links to the underlying data (data source) upon which the entry depends).

15. With respect to claim 13, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland also teaches of at the cache: receiving the invalidation message (paragraph 0061-0062; the invalidateById command is broadcast to all JVMs within a distributed cache);

mapping said first secondary key to primary keys of the multiple data objects (fig. 4; paragraph 0072 The cache entry vs. data ID dependencies is a list of the data IDs of cached data on which the cached JSP or command is dependent. The template dependencies matches each JSP or command with its template; therefore the data ID (secondary key) can be mapped to its templates (primary key)); and

invalidating the multiple data objects (paragraph 0061-0067; the invalidateById command invalidates the cached data related to the id).

16. With respect to claim 19, Copeland teaches of a computer readable medium storing instructions that carry out the methods of claim 7 as recited above (paragraph 0081).

17. With respect to claim 20, Copeland teaches of a computer-implemented method of facilitating invalidation of cached data using a secondary key, the method comprising: receiving at a cache a first data object to be cached (fig. 3; paragraph 0054; 0059; the application invokes the execute() method which places the entry (first data object) and attached metadata in the cache),

wherein the first data object is accompanied by: a first primary key configured to uniquely identify the first data object within a network (fig. 3; items 102, 104; paragraph 0054; the entry is associated with metadata that contains a template and a cache ID (primary key). The cache ID identifies the entry which must be unique within the scope of a set of JVMs (network)); and

a first secondary key comprising information common to multiple data objects in the network, including the first data object (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends (common attribute));

maintaining at the cache a mapping between said first secondary key and primary keys of the multiple data objects (fig. 4; paragraph 0072; The cache entry vs. data ID dependencies is a list of the data IDs of cached data on which the cached JSP or command is dependent. The template dependencies matches each JSP or command with its template; therefore the data ID (secondary key) can be mapped to its templates (primary key)); and

in response to receipt at the cache of an invalidation message identifying said first secondary key (paragraph 0061-0067): identifying the primary keys of the multiple



data objects (fig. 4; paragraph 0072; The cache entries are identified from their data IDs via the cache entry vs. data ID dependency list as the cache entry vs. data ID dependency list lists such. The templates (primary key) can then be identified through the cache entry vs. template dependency list);

and invalidating the multiple data objects (paragraph 0061-0067; the invalidateById command invalidates the cached data related to the id).

18. With respect to claim 21, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland also teaches of wherein said invalidation message does not specify the primary keys of the multiple data objects (paragraph 0061-0066; the invalidateById(id, wait) command is used to invalidate data object which does not specify the template (primary key), only the data ID (secondary key)).

19. With respect to claim 28, Copeland teaches of a computer readable medium storing instructions that carry out the methods of claim 20 as recited above (paragraph 0081).

20. With respect to claim 29, Copeland teaches of a system for facilitating invalidation of cached data objects, comprising: a first cache configured to cache data objects for serving to clients (fig. 5, paragraph 0071);

and a data source (fig. 1; items 14; paragraph 0026), coupled to the first cache via a network (fig. 1; paragraph 0023; the cache is an external cache deployed between the web server and the internet boundary),

wherein the data source is configured to: produce data objects for caching in the cache (paragraph 0046; the API allows the creation of cacheable versions of its standard objects);

associate with each data object a primary key configured to uniquely identify the data object within the network (fig. 3; items 102, 104; paragraph 0054; the entry is associated with metadata that contains a template and a cache ID (primary key). The cache ID identifies the entry, which must be unique within the scope of a set of JVMs (network));

associate with each data object a secondary key, wherein each secondary key is associated with a set of data objects having a common attribute (fig. 3; item 108; paragraph 0054; the data IDs (secondary key) are links to the underlying data upon which the entry depends (common attribute)); and

issue to the cache an invalidation message comprising a first secondary key to facilitate the invalidation of a first set of data objects (fig. 3; paragraph 0054, 0061-0067; the JSP calls the invalidateByID(id, wait) command which invalidates the entries with a dependency on a data ID equal to id (first secondary key)).

### ***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

23. Claims 3, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Challenger et al. U.S. Patent 2002/0143868 (hereinafter Challenger).

24. With respect to claim 3, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland fails to explicitly teach of at the cache: maintaining a mapping of said secondary key to URLs of the one or more data objects. However, Challenger teaches of maintaining a mapping of said secondary key to URLs of the one or more data objects (paragraph 0088; where information is maintained to invalidate cached data that contains a mapping of URIs or templates (secondary key) to their URLs of the data).

Copeland and Challenger are analogous arts as they are both in the same field of endeavor, caching systems. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Challenger at the time of the invention to incorporate the mapping of the URIs or templates to their URLs for the cached data of Challenger into the cache of Copeland. The motivation for this would have been to use the data mapping for cache invalidation in Copeland as taught in Challenger (Challenger paragraph 0088).

25. With respect to claim 12, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of the common attribute is a template used to produce multiple data objects and said first secondary key comprises an identifier of the template. However, Challenger teaches of identifying and invalidating cached objects based on their template (paragraph 0088; where a mapping of the templates (URLs) to their URLs is maintained and is used to invalidate a large number of pages in the cache depending on their template).

Copeland and Challenger are analogous arts as they are both in the same field of endeavor, caching systems. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Challenger at the time of the invention to incorporate the keeping track of the templates for the cached data of Challenger into the data IDs of Copeland. The motivation for this would have been to use the template in cache invalidation in Copeland as taught in Challenger (Challenger paragraph 0088).

26. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Deen et al. U.S. Patent 6,823,391 (hereinafter Deen).

27. With respect to claim 5, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland fails to explicitly teach of wherein the invalidation message is issued after the source of the one or more data objects changes from the first data source to a second data source.

However, Deen teaches of wherein the invalidation message is issued after the source of the one or more data objects changes from the first data source to a second data source (fig. 2; column 8, lines 20-31; where movement of email content accessed by the client will invalidate a local cache since the content will have no source with which to synchronize. The email client knowing the address of its server which houses the desired content, accesses the email server (first data source) requesting the data, as the data has been moved to another server, an error message is returned from the email server stating the data is not there, thus invalidating the cache).

Copeland and Deen are analogous arts as they are both in the same field of endeavor, accessing data on a network system. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Deen at the time of the invention to incorporate the invalidation of cached data when its respective source data has been moved to a different server as taught in Deen into Copeland. The motivation for this would have been to keep the client from attempting to access a certain location for data that is no longer resident there.

28. Claims 8, 9, 22, 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Lango et al. U.S. Patent 6,813,690 (hereinafter Lango).

29. With respect to claim 8, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland fails to explicitly teach of wherein the first primary key is identified to the cache by a client when the client desires to receive the first data object.

However, Lango teaches of the first primary key is identified to the cache by a client when the client desires to receive the first data object (fig. 6; column 14, line 64-column 15, line 24; where the data request from the client system contains the URL (primary key) of the desired media (data object)).

Copeland and Lango are analogous arts as they are both in the same field of endeavor, caching data in a network system. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Lango at the time of the invention to incorporate the process of a client requesting data from the caching server and the caching server answering the request for data stored within itself. The motivation for this would have been to allow the client quicker access to the desired data (Lango, column 2, lines 23-31).

30. With respect to claim 9, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland fails to explicitly teach of wherein the first secondary key is not known to the client.

However, Lango teaches of wherein the first secondary key is not known to the client (Fig. 6; column 15, line 22-50; where the caching server reads the media descriptor information (secondary key), which is stored in the media data server, in response to the client's request. As the media descriptor information is stored in the media data server, it is not known to the client).

31. With respect to claims 22 and 30, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland fails to explicitly teach of wherein the requests received at the cache to serve the first data object include the first primary key

but not the first secondary key (fig. 6, column 14, line 64-column 15, line 50; the request to the caching server includes the URL (primary key). The media data descriptor information (secondary key) is stored in the media data server, and thus not contained in the data request).

32. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Mansour et al. U.S. Patent Application Publication 2002/0111995 (hereinafter Mansour).

33. With respect to claim 10, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises an identifier of the application. However, Mansour teaches of an application identification associated with cached data (paragraph 0128; where the details of how the controls are to be arranged are cached and an application identification is associated with them).

Copeland and Mansour are analogous arts as they are both in the same field of endeavor, caching systems. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Mansour at the time of the invention to incorporate the application identifications of Mansour in the data IDs of Copeland. The motivation for this would have been to be able to show the dependencies of the data by the application.

34. Claims 14 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Beshears et al. U.S. Patent 5,408,649 (hereinafter Beshears).

35. With respect to claims 14 and 23, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises a security symbol. However, Beshears teaches of using keeping track of security symbol data by identifying it via the security symbol (fig. 3, 4; column 6, line 1-36; where the MONITOR ADD request is forwarded to the file processor which sets a bit in the monitor service bit map which is maintained by security, and the communications processor obtains the security symbol via the database structure).

Copeland and Beshears are analogous arts as they are both in the same field of endeavor, computer databases. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Beshears at the time of the invention to incorporate the security symbol of Beshears into the data ID of Copeland, identifying cached data by common security symbols. The motivation for this would have been to track information by its security symbol as done in Beshears.

36. Claims 16, and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Agrawal et al., U.S. Patent Application Publication 2002/0004813 (hereinafter Agrawal).



37. With respect to claims 16 and 25, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises a date. However, Agrawal teaches of using an expiration date in invalidating cache (paragraph 0019; The caching properties may include a unique identifier, an expiration date, an expiration time and/or an invalidation rule).

Copeland and Agrawal are analogous arts as they are both in the same field of endeavor, caching data. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Agrawal at the time of the invention to incorporate the expiration date used in invalidating cache in Agrawal into the data ID of Copeland. The motivation for this would have been to insure efficient use of the cache.

38. Claims 15, 24, 17, and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Lau U.S. Patent Application Publication 2004/0199621 (hereinafter Lau).

39. With respect to claims 15 and 24, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises a name. However, Lau teaches of identifying computer data center environments based on the

name of the location (Fig. 4; paragraph 0033-0034; where the data center ID includes the name of the region, country, and city of the data center).

Copeland and Lau are analogous arts as they are both in the same field of endeavor, networked computer systems. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Lau at the time of the invention to incorporate the information pertaining to the name of the location from Lau into the data ID of Copeland, identifying cached data by name of the location of its users. The motivation for this would have been to keep track of information by the location of its users, providing geographical statistics.

40. With respect to claims 17 and 26, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises address information. However, Lau teaches of identifying computer data center environments based on address information (Fig. 4; paragraph 0033-0034; where the data center ID includes the region, country, city, and address information of the data center).

Copeland and Lau are analogous arts as they are both in the same field of endeavor, networked computer systems. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Lau at the time of the invention to incorporate the address information from Lau into the data ID of Copeland, identifying cached data by address information of its users. The motivation for this would have

been to keep track of information by the location of its users, providing geographical statistics.

41. Claims 18 and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Copeland and Agarwalla et al., U.S. Patent Application Publication 2003/0187935 (hereinafter Agarwalla).

42. With respect to claims 18 and 27, Copeland teaches of all the limitations of the parent claims as discussed supra. Copeland teaches of a first secondary key (fig. 3; item 108; paragraph 0054; the data IDs (first secondary key) are links to the underlying data upon which the entry depends).

Copeland fails to explicitly teach of said first secondary key comprises a product identifier. However, Agarwalla teaches of using a product ID in a cache ID (paragraph 0367; the full URI is used as the cache ID, which includes the product ID).

Copeland and Agarwalla are analogous arts as they are both in the same field of endeavor, Caching data objects in a network system. It would have been obvious to one of ordinary skill in the art having the teachings of Copeland and Agarwalla at the time of the invention to incorporate the product ID from Agarwalla into the data ID in Copeland. The motivation for this would have been to identify cached data associated with particular products.

***Allowable Subject Matter***

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43. Claims 31-32 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

44. The following is a statement of reasons for the indication of allowable subject matter:

45. Claim 31 teaches of the first cache is configured to cache multiple versions of a first data object; and each said version is cached with a different primary key and the same secondary key. The prior art of Lango et al. Patent 6,813,690 teaches of content sensitive identifiers (primary keys) which are used to unambiguously determine the version of media data stored in the cache (column 4, lines 15-34). The prior art fails to teach of using ***the identical secondary identifiers*** between the multiple versions of cached data.

46. Claim 32 teaches of a second cache configured to cache a first data object cached by the first cache, with a different primary key and the same secondary key. The prior art teaches of using multiple and different primary keys to identify the same cached data object, but fails to teach of using two independent primary keys to identify the ***same*** data object which is cached ***separately*** at two different locations, with one primary key indicating the object in one location and the other key the other location.

### ***Conclusion***

47. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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48. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Krofcheck whose telephone number is 571-272-8193. The examiner can normally be reached on Monday - Friday.

49. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

50. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Krofcheck



**MATTHEW D. ANDERSON**  
PRIMARY EXAMINER